

## CLINICAL CONFERENCE

### Acute Transient Pancreatitis Associated with Chronic Cholecystitis and Cholelithiasis

*From the University of California Surgical Service of the San Francisco Hospital, February 25, 1947*

*Presentation of the Case by the House Officer, Dr. Louis Nash:*

A 58-year-old white woman entered the hospital January 20, 1947, complaining of abdominal pain of two days' duration. Two days before entry, shortly after lunch, she experienced severe epigastric pain which had a sudden onset, was steady, and remained constant. The pain was sharp and piercing and radiated to the left lower quadrant, but not to the back or shoulder. There was persistent anorexia and nausea and vomiting occurred several times. The vomitus was green in color and did not contain blood. Stools and urine were normal; there were no chills or fever. The patient was completely prostrated and remained in bed from the onset of the episode until entry into the hospital.

Twelve years before, she had had colicky upper abdominal pain, followed by jaundice, which lasted two weeks. At that time the urine was dark and stools were light in color. An episode of pain and nausea similar to the present attack occurred two months before entry, but subsided abruptly after about two hours. The past history was not remarkable otherwise. There were five children. Menses had not occurred for the past ten years, but interview elicited no other menopausal symptoms. Use of alcohol or tobacco was denied.

On entry, the temperature was 38.5°C.; pulse was 92 and respiration 16 per minute; blood pressure was 130/70. Examination showed a moderately obese, cooperative woman appearing about the stated age of 58 years. The abdomen was rounded and showed no scars. There was moderate tenderness to palpation over the entire upper abdomen, most marked in the epigastrium. There was no muscle spasm, but some voluntary guarding. Questionable rebound tenderness was elicited in the epigastrium. No organs or masses were palpable. Peristalsis was hypoactive. Pelvic and rectal examination revealed no tenderness in these areas.

Urinalysis showed no sugar or albumin; urobilinogen was positive 1:1, negative 1:10; microscopic examination showed 20 white blood cells

per high dry field. Hemoglobin was 13.4 gm. and white blood count was 21,000 with 84 per cent neutrophils, 15 per cent lymphocytes and 1 per cent monocytes. The corrected sedimentation rate was 4 mm. in one hour. Serum amylase was 890 units. Total serum protein was 8.4 gm. per cent; albumin, 4.1 gm. per cent; globulin, 4.3 gm. per cent. Icteric index was 11 units. Wassermann reaction was negative. An x-ray film of the abdomen showed no evidence of disease. The gallbladder was not made visible by intravenous cholecystography.

Supportive treatment with intravenous fluids was given. Temperature became normal on the fifth hospital day and abdominal pain and nausea gradually subsided. On the ninth hospital day intravenous cholecystograms were repeated and still showed a non-functioning gallbladder. Additional laboratory studies during the hospital stay are shown in Table 1. The patient was discharged January 30, 1947.

On February 15, 1947, the patient was readmitted to the hospital for cholecystectomy. While at home there was no pain and the patient had been able to eat anything without distress. Examination on admission showed no abdominal tenderness. Temperature was 37.2°C. Serum amylase was 23 units; blood cholesterol, 212 mg. per cent; prothrombin, 90 per cent of normal; hippuric acid, 1.4 gm. White blood cell count was 9,600 with 62 per cent polymorphonuclear cells.

On February 19, 1947, cholecystectomy and exploration of the common bile duct were carried out. No free fluid was present in the peritoneum. Small, pale, 3 mm.-sized areas of old fat necrosis were grossly visible over the mesentery, omentum, and hepatic surface. The gallbladder was of normal size, not acutely inflamed, and contained many small cholesterol calcium bilirubinate stones. The cystic duct was 7 to 8 mm. in diameter and large enough for the smaller stones to pass. The common duct was about twice normal size but thin walled and free from stones or any type of obstruction. The pancreas was twice normal size and very diffusely firm and lobular, particularly about the head.

TABLE 1.—Serial Laboratory and Clinical Studies

	1	Hospital Day 2	3	4	5	6	7	8
Serum amylase (units) . . . . .	890	298	290	148	40		253	
Urine amylase (units) . . . . .		413	1,057	338	595		795	195
Temperature . . . . . 38.9°C.		38.4	38.3	37.8	37.3	37.2		
Abdominal pain . . . . . +++		+	+	none	none	none		
White blood cells . . . . . 21,000		13,900					11,500	
Icteric index (units) . . . . . 11			5					

The gallbladder was removed and the common duct drained with a "T" tube. Analysis showed the gallbladder bile amylase to be 925 units, and the common duct bile amylase 85 units.

The patient's postoperative course was uncomplicated. Temperature, which was 38.3°C. on the first day, became normal on the second day. Bile drainage was 300 to 350 cc. per day.

#### CLINICAL DISCUSSION

DR. CLAYTON G. LYON\*: The elevated serum amylase levels, and the amylase in the urine and gallbladder bile show that this is a case of acute pancreatitis. Everyone may recall cases which were called alcoholic hepatitis or gastritis, which proved to be acute pancreatitis edema or acute hemorrhagic pancreatitis. It has been found that alcoholism is associated with acute pancreatic disease more frequently than with gallbladder disease. Direct trauma may also cause acute pancreatitis.

DR. ALBERT G. CLARK†: In making a diagnosis on the basis of serum amylase levels, I think it should be emphasized that in a private hospital, where these tests are not done often, the findings are not reliable. Here one is fairly sure of the laboratory work.

DR. RALPH CRESSMAN††: If the patient is acutely ill, immediate removal of blood for the serum amylase may be followed by intravenous administration of the gallbladder dye; in the morning the x-ray may be taken. We have seen patients with acute pancreatitis in whom the first cholecystographic films did not show a visualizing gallbladder but in whom the second films did.

DR. STANLEY G. JOHNSON\*\*: Speculation as to the etiologic factors is interesting. The following pathogenic factors may contribute at some time or other: (1) Bile reflux into pancreatic duct secondary to partial or complete occlusion of ampulla by a stone, (2) Spasm of the ampullary sphincter, (3) Obstruction of the pancreatic duct by stone or spasm, (4) Extension of inflammatory process to the pancreas by anatomical continuity, (5) Erosion of ulcer of stomach or duodenum into the pancreas, (6) Trauma to the pancreas, (7) Excessive alcoholism, (8) Infarction of pancreas. The disease can mimic any acute intra-abdominal process, though at times its manifestations are quite typical, as they were in this patient. It is a common disease that is rarely fatal.

In all cases, but particularly in the atypical case, the serum amylase test supplies our most dependable single datum. There occurs a sharp rise in serum amylase with the onset of the disease which, in the majority of cases, declines sharply to a normal level in 24 to 72 hours. The implications are obvious. When the patient enters the hospital

24 to 48 hours after the onset of symptoms, or even later, elevated urinary amylase readings present at that time can help us to arrive at the diagnosis.

Acute infection of the salivary glands or obstruction of their ducts, and impaired renal function with subsequent retention of amylase, will also result in elevated levels. The former condition should be obvious, and a comparison of serum and urinary amylase levels should indicate the latter, in which the serum level usually is only high enough to make the situation equivocal.

DR. LEON GOLDMAN‡: This patient demonstrates a number of factors. In the literature the percentage of patients with acute pancreatitis who were believed to have associated gallbladder disease is quoted as being 60 per cent. In this hospital, because of the higher incidence of alcoholism in our patients, the percentage of cholecystic disease is much lower. This patient had a history of gallbladder disease and at one time was said to have had symptoms suggestive of a common duct stone with obstructive jaundice. At the onset of the pancreatitis there was persistent vomiting, which is a common symptom in most of these patients. The pain was not over the gallbladder region, and the rigidity was too mild to suggest a perforated peptic ulcer. There was no back pain or glycosuria. A normal blood amylase does not rule out acute pancreatitis, as the amylase level may return to normal a few hours after the onset of the attack of pain. The height of the serum amylase level does not differentiate acute pancreatic necrosis from acute transient pancreatitis, as it is probable that they are both different manifestations of the same pathological process. The urinary amylase is a valuable test when the patient is seen after the early symptoms have subsided, since its elevation lags behind that of the serum amylase. Another interesting finding in this patient is amylase of 925 units in the gallbladder bile, which probably results from a reflux of pancreatic enzymes into the gallbladder.

If the presence of gallstones in this patient is the etiologic factor in the production of pancreatitis, then removal of the gallbladder and exploration of the common duct should be of some aid in avoiding a recurrence. Subsequent stricture around the lower end of the common duct due to stenosing fibrous chronic pancreatitis is a rare sequela. Therefore, it is important that the "T" tube which drains the common duct be left in place for three or four months. Cholangiograms should be taken before it is removed. If the tube is removed before the process is completely healed, chronic fibrosing obstruction of the bile duct may develop later. The mechanism in this patient might be due to the reflux of bile, lodgment of a small stone in the ampulla, or spasm of the ampullary sphincter. We know that the serum amylase elevation occurs in acute pancreatitis but not in chronic pancreatitis. These amylase tests actually are simple to do: they are not much more difficult than blood

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sugar tests and should be available in any hospital where patients with acute abdominal conditions are admitted.

The differentiation of acute pancreatitis into the hemorrhagic or transient type is made clinically. In the hemorrhagic type, which is often associated with shock, the mortality rate is approximately 50 per cent, whether or not operation is carried out. If one should operate upon such a patient, one drains the gallbladder and lesser peritoneal sac.

Many of these patients develop abscesses of the lesser peritoneal sac, which occur late and are more

an accumulation of necrotic material than a collection of pus. These abscesses usually do not resolve spontaneously, but must be drained. Rarely cysts or pseudocysts of the pancreas form after pancreatitis. It is possible for a patient to have acute pancreatitis associated with acute gallbladder colic, and possibly stones, and to have a recurrence of pain even after gallbladder removal. The pancreatitis may cause the symptoms ascribed to gallbladder disease. The reason for removing the gallbladder is the possibility of the patient's forming other stones in the gallbladder.

### 80 VOLUNTARY HEALTH PLANS IN 33 STATES COVER FOUR MILLION

"Driving to complete the voluntary health insurance program for the care of the American people is the big job facing local, state and national medical organizations today," according to Thomas A. Hendricks, secretary of the Council on Medical Service of the American Medical Association. "More than 80 plans sponsored by medical societies in 33 states covering 4,000,000 persons are now in operation and the task has just begun.

"The pioneering state of voluntary health insurance is nearing completion and, nationally, we are rapidly entering the development stage. Only two states do not have a plan operating or in the process of formation. Plans for a prepayment program are now being made in 13 states and the District of Columbia. Growth of the plans now in operation has been rapid, the over-all expansion within the last six months being as phenomenal a production figure as has appeared in modern insurance records.

"The enrollment in prepayment plans has accelerated slowly. This was partly due to the difficulties developed in the early experimental stages through which such plans had to pass, and partly to hesitancy on the part of doctors to plunge into an untested field of endeavor. As the number of plans has increased, so too has the acceleration in enrollment. During 1945 the over-all increase was 114 per cent. For the first six months of 1946 the enrollment increase was approximately 40 per cent, bringing the total to nearly the 4,000,000 mark. Indications are that enrollment will reach 5,000,000 by early 1947.

"One of the objectives of the Council on Medical Service is to present the facts in regard to advantages and disadvantages of the various plans, keep records up to date on all new developments in the medical care field, conciliate differences of opinion as to the various forms of insurance—in short, view the entire question impartially and objectively, in order to do everything possible to encourage the wholehearted acceptance by every state society of a practical, workable plan.

"The whole insurance program is still experimental. No one knows the complete answer. Hence, the council hopes to encourage all types of plans that meet the minimum requirements set by the council to maintain the standard of medical service for the protection of the public.

"The council is now set up to do the job of (1) encouraging development of new plans; (2) keeping the

profession informed as to developments, and (3) helping to increase the enrollment of plans already established.

"A prepayment division of the council has been created with George Cooley, assistant secretary of the council, keeping in contact with medical society-sponsored plans; Howard Brower, maintaining contact with private insurance groups; and L. S. Kleinschmidt, concentrating his efforts on encouraging rural enrollment and maintaining contact with the newly created consumer-operative movement.

"Prepayment plans have progressed rapidly in the cities, but development in the rural areas has been slow, although several plans have been making notable advancements along this line.

"Jay Ketchum, Lansing, executive vice president of Michigan Medical Service, is acting as consultant for the council.

"Within the past few months private insurance carriers are showing an intense interest in medical and surgical care coverage and, as a result, there have been many conferences both formal and informal. A joint conference was held with representatives of large insurance associations in Chicago in September, with Dr. E. J. McCormick, of Toledo, chairman of the council, presiding.

"One of the most important developments has been the creation of Associated Medical Care Plans, with Dr. H. L. Schriver, of Cincinnati, Ohio, as president; William M. Bowman, San Francisco, vice president; Jay Ketchum, secretary; and Dr. Norman Scott, Newark, N. J., treasurer. In a sense this is a trade organization of plans. It can be of great service in developing reciprocity, details of selling, cooperative actions and procedure. Frank Smith, who has served with the California Physicians' Service, San Francisco, as director of public relations, recently has been appointed A.M.C.P. director. Although A.M.C.P. will be housed with the council and its work integrated with the work of the council and in accord with the policies of the council, it is a legal entity separate and distinct from the council. The board of trustees has allotted through the council sufficient funds to this organization to get started.

"The council is also aided by Frank Dickinson, Ph.D., director of the Bureau of Medical Economic Research of the American Medical Association, and T. V. McDavitt of the A.M.A. staff has served as the legal advisor of A.M.C.P."

